Climate Review for PR and USVI – September 2020

Synopsis: *Below normal rainfall and above normal temperatures were observed at all three climatological sites for the month of September. Both St. Thomas (IST) and St. Croix (ISX) ended in the top ten warmest September on record. San Juan (SJU) broke two record high daily temperatures in a row, reaching 95ºF. Once again, the northwestern quadrant and sections near El Yunque rainforest across northeast Puerto Rico, and the interior of Puerto Rico observed above normal rainfall, mainly due to a series of upper level disturbances and increased moisture levels. Below normal precipitation was generally observed elsewhere.*

Observed Conditions:

September is a relatively rainy and hot month, with normal rainfall exceeding 5 inches across most of Puerto Rico, and about 3 to 6 inches across the U.S. Virgin Islands; while normal daytime high temperatures are in the upper 80s to low 90s, while the highest elevations of Puerto Rico generally observe high temperatures in the low to mid 80s. That said, this September had below normal rainfall across most areas and above average temperatures. The average temperatures were from 0.7ºF to 1.1 ºF above normal across the main climatological sites (Table 1).

Over Puerto Rico, the western and northwestern sections, as well as portions of the northeast and the islands of Vieques and Culebra observed above or near normal rainfall. Most of the rest of the island had rainfall deficits between 0.5” - 4” (Figure 1). In terms of percent or normal rainfall, the area with the highest percent of normal rainfall was northwestern Puerto Rico with over 150%, while the lowest percentage went to portions of southwestern Puerto Rico with about 30% of normal; it is also worth mentioning that most of the eastern half of Puerto Rico observed about 50 to 60% of normal rainfall. In the Virgin Islands, St. Croix observed 0.62 inches of rain below normal, and St. Thomas observed 0.38” of rain below normal. This translated to a percent of normal of approximately 87% in Saint Croix, and 93% in Saint Thomas.

The total monthly rainfall estimates by the Doppler radar across Puerto Rico ranged from around 2 to 4 inches at some areas of southern Puerto Rico to over 15 inches across portions of northwestern and northeastern Puerto Rico; while the total rainfall across the U.S. Virgin Islands ranged from 4 to 6 inches (Figure 2). The only daily rainfall record this month was observed in Saint Thomas, with 1.37” on September 11th. Two daily record high temperatures were broken in San Juan, and one daily record high temperature was broken at the St. Croix airport. Saint Thomas and St. Croix ended the month with the fourth and sixth warmest September on record respectively. The overall highest temperature observed this month across our local COOP stations was 100ºF at the Aguirre station, and the lowest temperature was 55ºF at the Toro Negro Forest station.

The local drought conditions remained relatively unchanged over Puerto Rico, but the U.S. Virgin Islands now have no drought classification. Around 5% of Puerto Rico, across a small section of the southeast, continues to be classified as “Abnormally Dry” (D0) (Figure 3). But for the U.S. Virgin Islands, the previous D0 classification has now been elimiated (Figure 4).

Looking Ahead:

The latest seasonal outlook issued by the Caribbean Climate Outlook Forum (CariCOF) for the 3-month period of October-November-December (OND) favors above normal rainfall (Figure 5) and above normal temperatures (Figure 6). The latest observations indicate that we are currently under La Niña conditions; and the latest forecasts favor a continuation of La Niña through the Northern Hemisphere winter. La Niña does favor above normal rainfall through October, but it generally favors near normal to below normal shower activity in the November-December-January months.
More info: http://rcc.cimh.edu.bb/climate-outlooks/

Figures and Tables

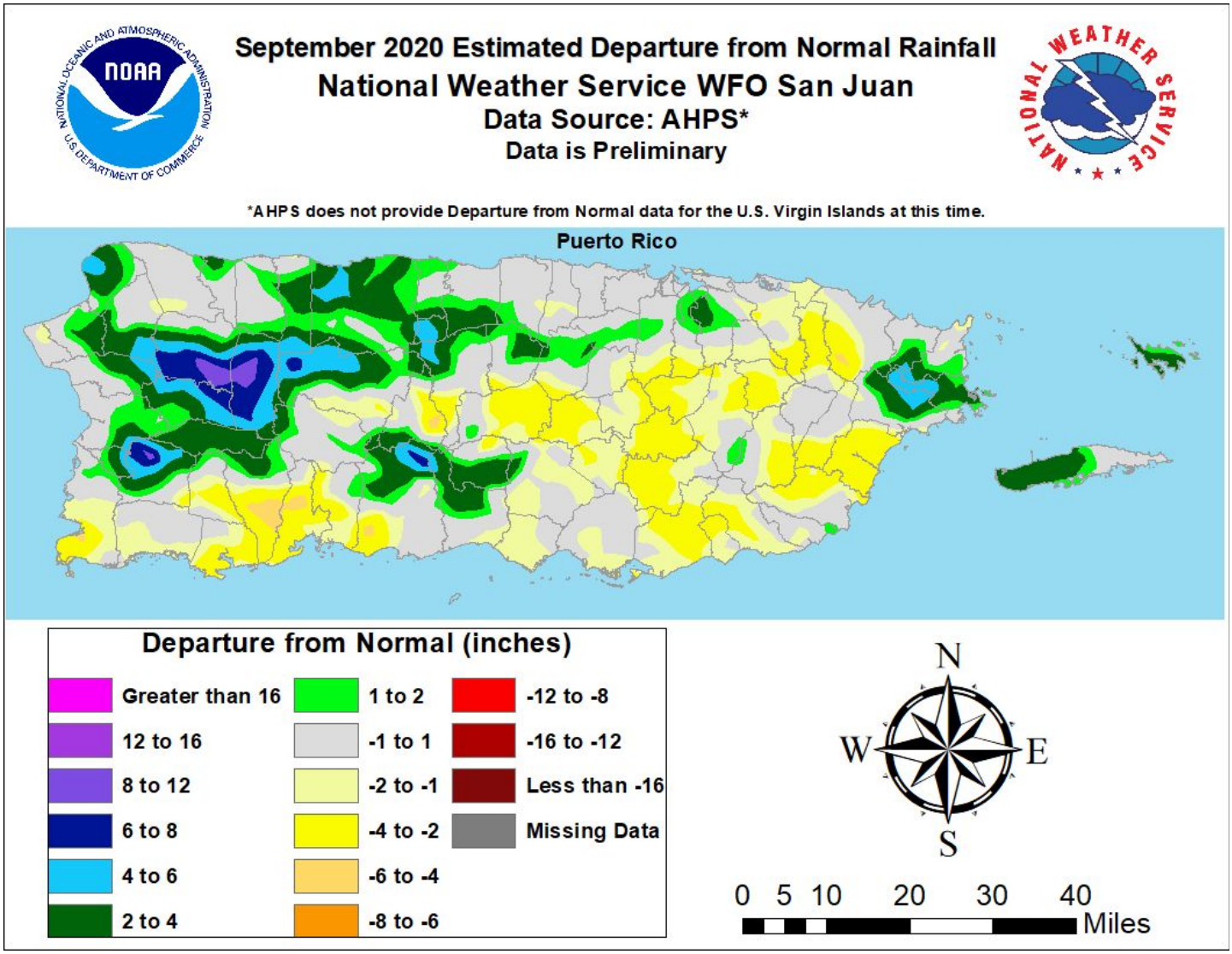


Figure 1. Departure from normal rainfall for the month of September 2020.

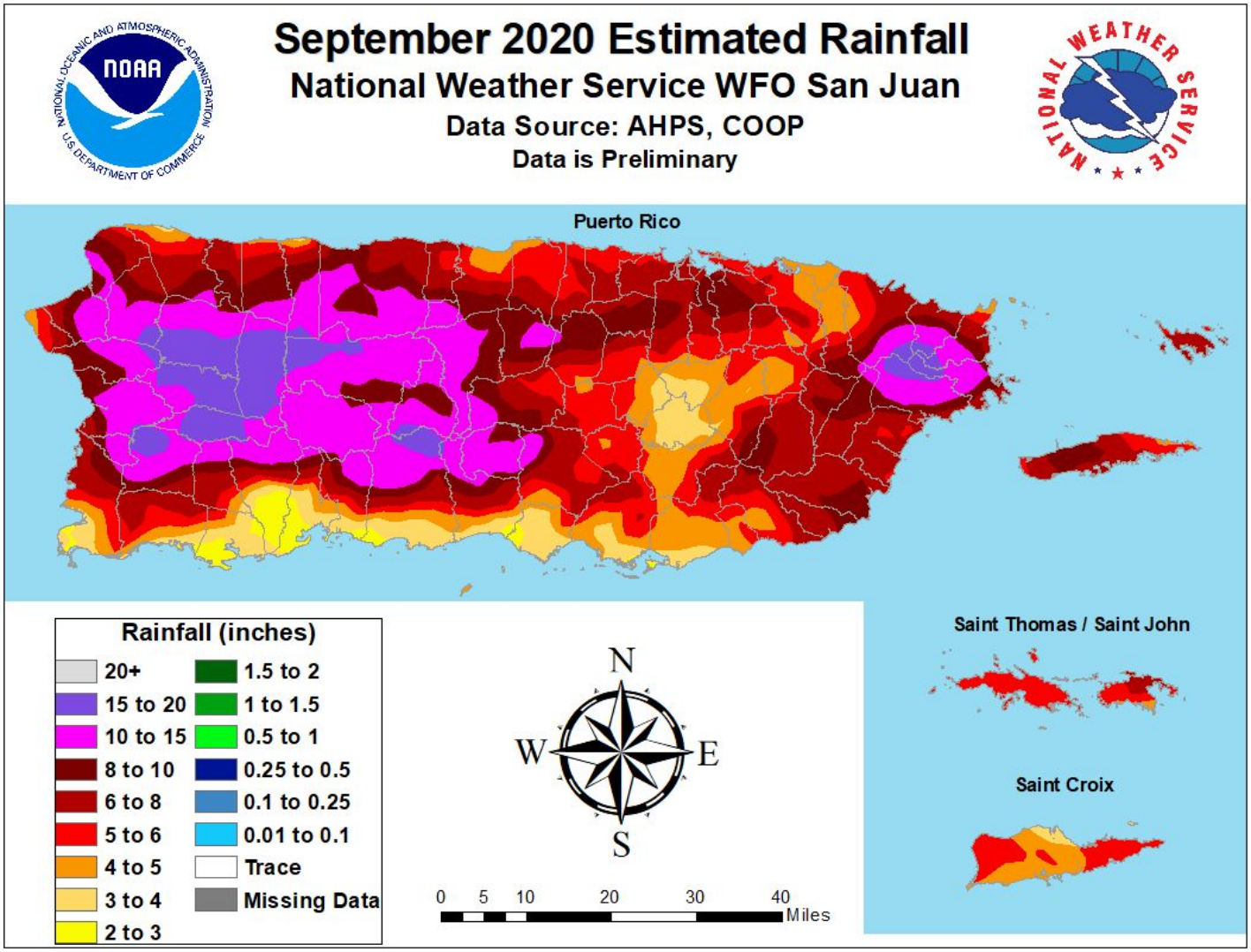


Figure 2. Total estimated rainfall for the month of September 2020.

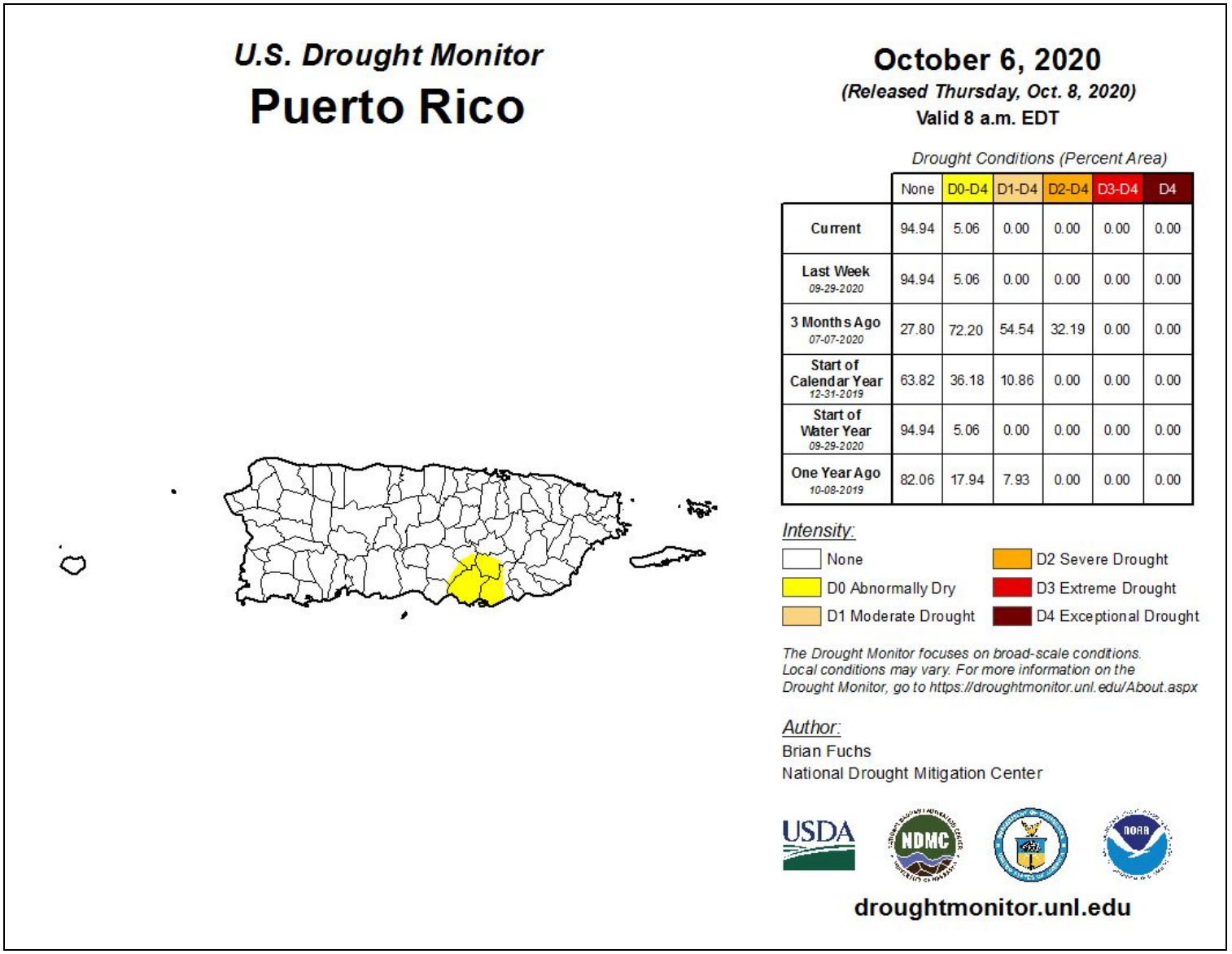
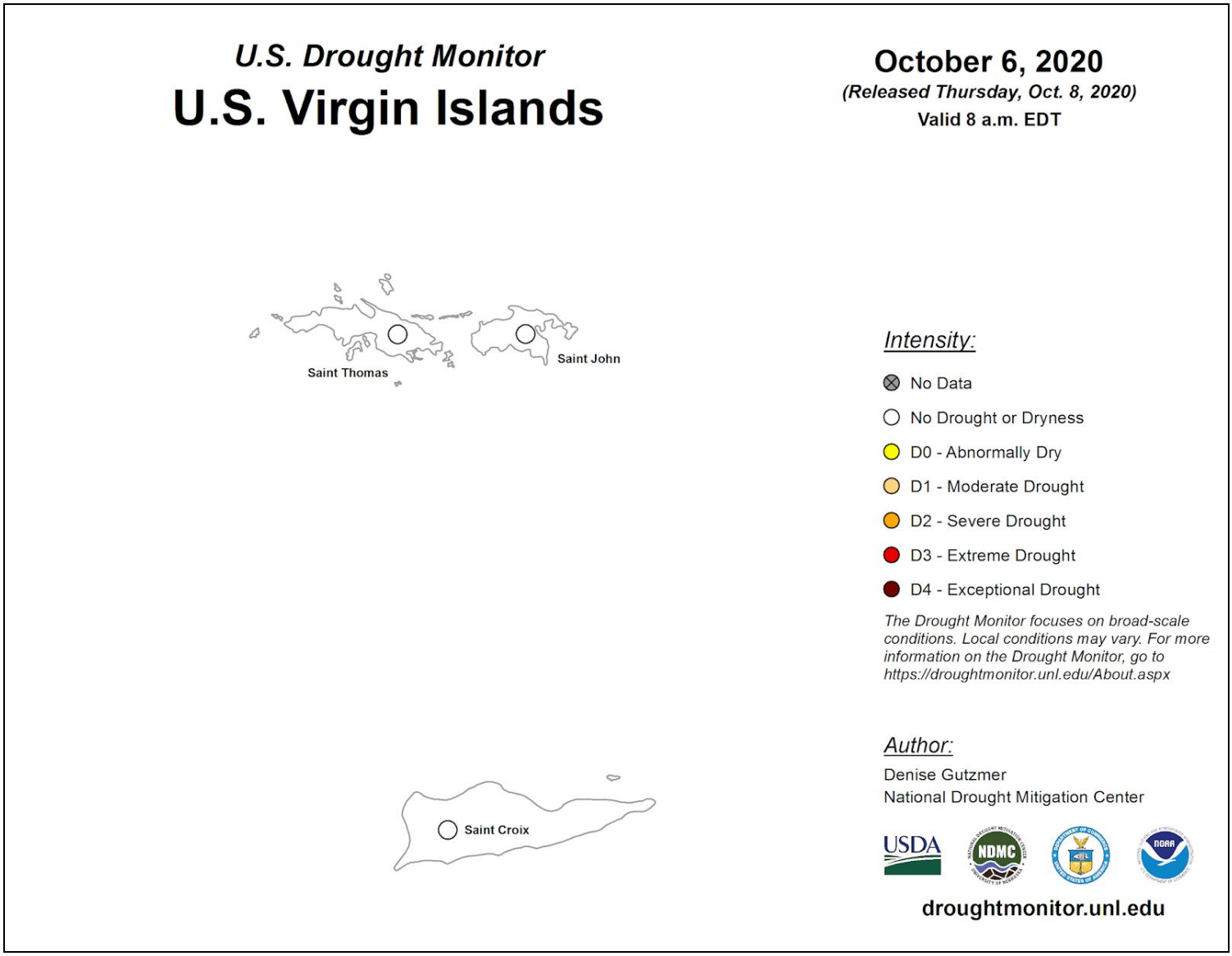


Figure 3. U.S. Drought Monitor for Puerto Rico. Released October 8th, 2020



Fgure 4. U.S. Drought Monitor for the U.S. Virgin Islands. Released October 8th, 2020.

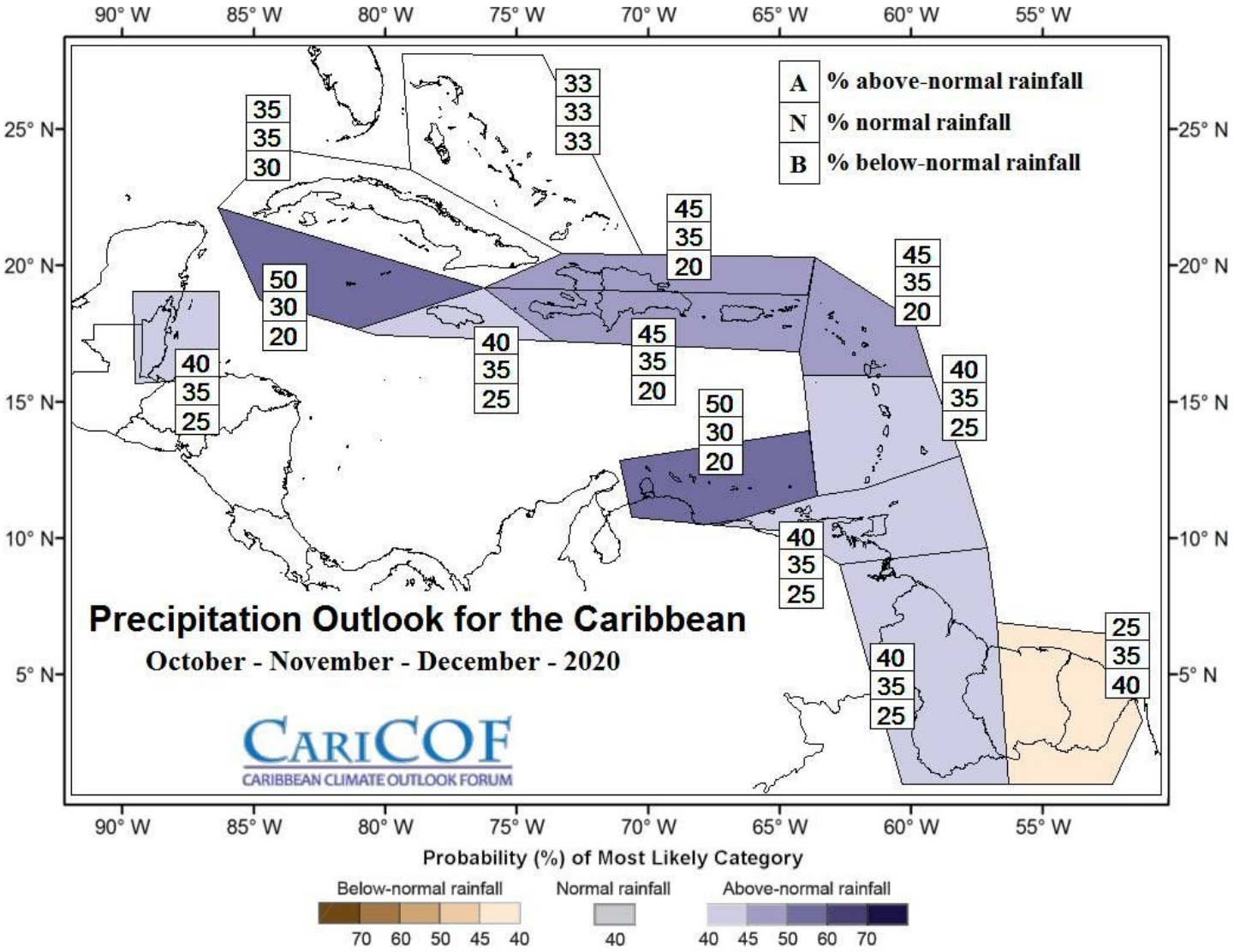


Figure 5. CariCOF 3-month rainfall forecast.

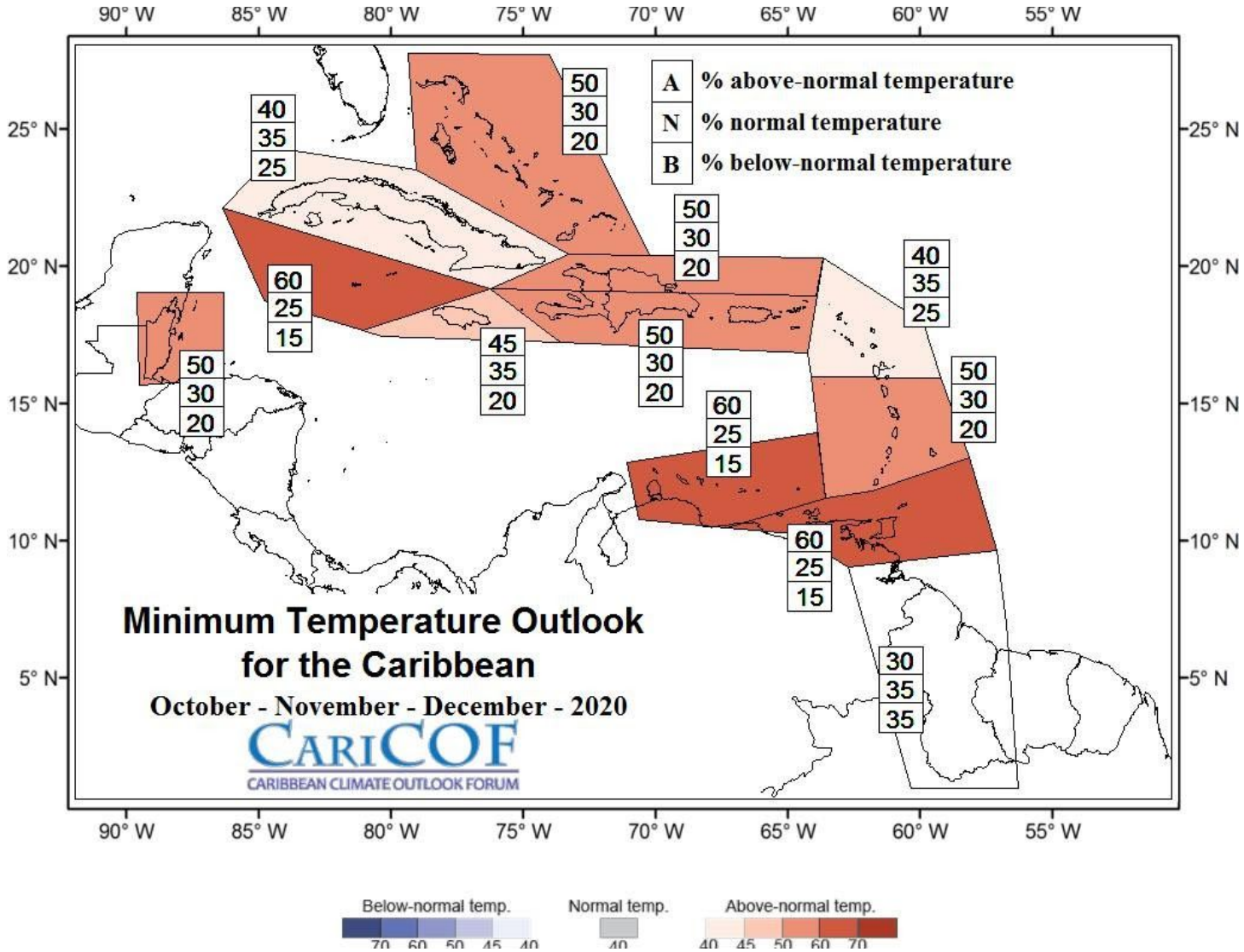


Figure 6. CariCOF 3-month temperature forecast

	Max Temp (ºF)	Min Temp (ºF)	Mean Temp (ºF)	Monthly departure from normal Mean Temp (ºF)
JSJ	95 – Sep 23rd*	77 – Sep 29th*	84.2	0.7
IST	94 – Sep 2nd	76 – Sep 27th*	85.1	1.1
ISX	94 – Sep 16th	73 – Sep 30th	84.2	1.1

Table 1. Temperature highlights for the local international airports.
*Date of last occurrence. This temperature was observed in more than one day.

	Total Monthly Rainfall	Monthly departure from normal rainfall	Year-To-Date departure from normal rainfall.
JSJ	5.03”	-0.74”	11.70”
IST	5.20”	-0.38”	-2.43”*
ISX	4.24”	-0.62”	-3.30”

Table 2. Rainfall highlights for the local international airports.
*Due to missing data in May, this value includes the estimated rainfall for the month of May which was estimated to be 1.55”, based on an average between nearby stations and Doppler Radar Estimates.

	Records Set or Tied This Month	Previous Record and Year
JSJ	Daily Max Temp – Sep 22nd – 95ºF – Sep 23rd – 95ºF	94ºF – 2013 94ºF – 2016
IST	Daily Rainfall – Sep 11th – 1.37”	1.16” – 1984
ISX	Daily Max Temp – Sep 16th – 94ºF	92ºF – 2012

Table 3. Temperature or Rainfall records that were set or tied in the month of September 2020